Edge Zero

SOLUTIONBRIEF

Load Management

The adoption of distributed energy resources (DER) offers customer benefits in energy price optimization and peak demand management. However, if uncontrolled, large-scale DER deployment can challenge network operators in maintaining power quality and reliability. Local network capacity limits can also hinder demand response programs.

Optimal DER management requires inputs from wholesale energy markets and real-time network capacity data. EdgeZero's real-time monitoring platform, EdgeConnected™, uses live data from key transformers at grid constraint points, ensuring optimal demand response program operation without compromising reliability and power quality.

EDGE ZERO COMBINED BENEFITS

Edge Zero's low voltage network monitoring leverages proprietary, low-cost transformer monitoring sensors that report detailed one-minute data on voltage and power quality through our EdgeConnected network management platform.

- **Real time data:** tracks network asset capacity utilization 24/7
- **Feeder and circuit level data:** individual, localized transformer datasets enable localized dynamic operating envelopes and support utility control efforts for DER assets at a circuit level
- **Localized forecasting:** AI-driven data analytics based on real time asset-level data sets establishes high
  accuracy energy forecasting at a localized circuit and feeder level
- **Localized tariffs and pricing:** asset-level data enables localized tariff structures to incentivize optimal DER utilization and cost-effective integration of DRE into network asset management services in addition to wholesale market services.

Edge Zero's **out of the box-ready** cloud solution means no on-premise infrastructure required. And, a scalable solution, there is no minimum deployment size.

LV Monitoring Hardware Features

- Fast, easy, live installation with no customer outages
- IP67 rated for pole top and pad mounting installation
- 15+ year asset life
- 100 - 520V rated voltage supply / Monitors 4000A RMS
- 1-minute power quality reporting interval
- Real time outage alerts with last gasp function
- 4G internal modem and LoRaWan mesh

Data Integrations

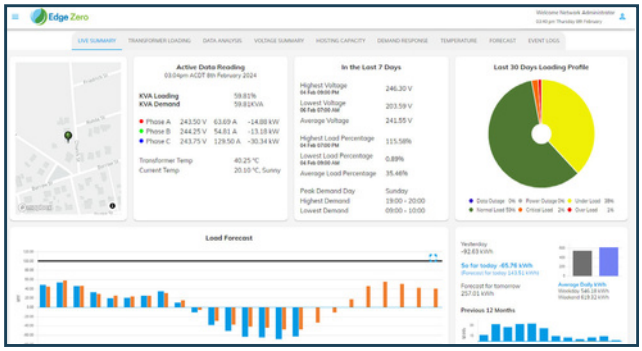
- Operates as stand alone environment or integration with ADMS & GIS grid models
- RESTful API data to existing systems including, but not limited to:
  - Meter data management system (MDMS)
  - Demand response management system (DRMS)
  - Distributed energy resource management system (DERMS)
- DNP3 Virtual RTU environment for SCADA integration

PROVEN EXPERIENCE AND STRATEGIC PARTNERSHIPS

- Edge Zero's LV network monitoring solutions are deployed at scale across 7 of the 11 distribution networks in Australia, representing over 70% of the country's residential and commercial customers.
- Edge Zero provides network monitoring and platform deployments to utilities in the UK, South America, Southeast Asia.
- Edge Zero is proudly partnered with Parsons, Inc. for the deployment of low voltage network monitoring solutions in North America.

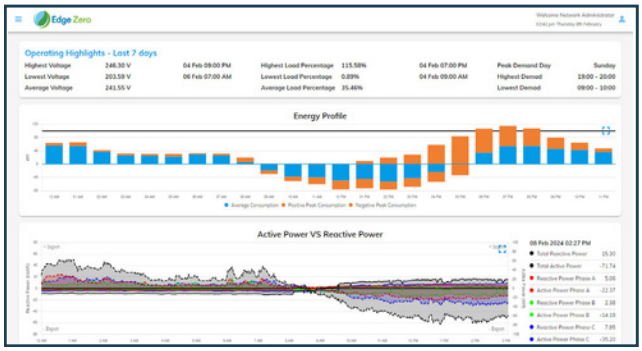
EDGECONNECTED LOW VOLTAGE MONITORING PLATFORM

Edge Zero gives grid operators, distribution utilities and embedded network operators the tools to maintain reliability and power quality as customers adopt new DER technologies and electric vehicles at scale. EdgeConnected utilizes live data from low-cost, simple installation transformer monitoring instrumentation to provide a smart digital twin of network power flows and asset performance.



OPTIMIZE Real time analytics

MONITOR Real time awareness



INFORM Real time response

CASE STUDY AUSNET SERVICES, AUSTRALIA

The AusNet Services project is an Australian Renewable Energy Agency (ARENA) program to optimize residential EV charging schedules based on LV network capacity availability. Edge Zero transformer monitors relay real time network capacity availability data to AusNet, a major Victorian network operator.

Based on Edge Zero data software analytics, AusNet provides EV charging instructions to JetCharge, the EV charging coordinator, to ensure rapid EV charging is managed within localized network capacity constraints. Edge Zero network data enables dynamic network tariff-setting to optimize automated EV charging behavior by residential customers.